

REMARKS

This Amendment is submitted preliminary to the issuance of an Office Action in the present application and in response to the Official Action of August 9, 2011.

Claims 1-28, 32, 35, 37-63 are pending in the application. Claims 1-28, 32, 35, and 37-56 are withdrawn from consideration. At least claim 57 was examined.

Claims 58-63 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 57 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Malmström of record taken together with either Singleterry or Bosko and Spiegel also of record.

All withdrawn claims have been listed and all claims listed in numerical order.

REJECTION OF CLAIM 58-63 UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claims 58 to 63 have been amended to indicate their proper dependency.

REJECTION OF CLAIM 57 UNDER 35 U.S.C. §103(A) AS BEING UNPATENTABLE OVER MALMSTRÖM TAKEN TOGETHER WITH EITHER SINGLETERRY OR BOSKO AND FURTHER IN VIEW OF SPIEGEL.

The rejection under 35 U.S.C. 103(a) is respectfully traversed.

Amended claim 57 is directed to a apparatus maintained under pressure for producing finely-bubbled carbonation of the liquid/gas mixture by additionally leading the liquid.gas mixture through a granulate filled gasifier. Applicant amended the claim so the in-line carbonator is defined as a post-impregnator. The amendment is supported by the specification in [0047].

Malmström does not teach an in-line carbonator according to the present invention. Malmström teaches that gas is guided into a container S and accumulates

liquid from sprayed in water mixed with gas but is not filled. The mixture is being led into the secondary carbonator identified as a cooler or discharging cylinder D where it can take up additional gas. Container D is also not entirely filled such that the gas is not under pressure. A valve C when opened delivers gas to container D, it equalizes the pressure while in normal operation, C is closed.

The Malmström differs from the claimed invention in significant ways. In particular, the carbonation system according to the present invention includes separate pressure means to maintain a steady pressure in the liquid within the carbonators. In contrast, the Malmström system does not have separate pressure means and therefore must maintain the system by opening and closing the C valve.

Furthermore, the system according to the invention includes the presence of a granulate in the carbonator which allows that the CO₂ gas can get absorbed more intensely within the liquid which is especially important for sugary liquids. Amended claim 57 also recites that the direction of the stream can vary in that the post-impregnator is constructed to operate in one and the other direction, the input then being the output.

The Examiner has cited Singleterry or Bosko for teaching a carbonation apparatus having upstream and downstream carbonation devices. The aim in Singleterry is to provide a carbonation system that is tankless. Water is guided through a venturi nozzle and while moving through the nozzle, the water is mixed with CO₂ to form a water gas mixture. As shown in Fig. 3 of Singleterry the static mixer 40 does not carbonate by itself but includes vanes that create turbulent flow of the carbonated fluid.

Singleterry and the claimed invention differ in a significant way in that while the claimed system clearly outlines a carbonation vessel under pressurized condition, Singleterry, aiming at a tankless system, does not. Indeed, Singleterry distinguishes it self from the prior art of those systems utilizing a carbonation tank system (col. 3, lines 9-13). Furthermore, the gas/water mixture should not be pressurized in Singleterry as the efficiency of the venture system is extremely flow critical.

The Examiner has cited Singleterry for the proposition of the existence of upstream and downstream carbonators stating: *Each of the secondary references provide an upstream and downstream carbonation device within a continuous flow carbonation means such that the high efficiency carbonation may be realized within a continuous process which is able to produce a greater volume of uniformly carbonated product per unit over time over a batch tank type carbonation system.* However, Singleterry does not provide a batch tank system.

Thus a combination of Malmström and Singleterry as postulated by the Examiner does not render the claimed invention obvious because Singleterry does not teach upstream and downstream carbonators that are tank-dependent. Thus, the person skilled in the art would not look to the Singleterry system. The claimed system works with a carbonation tank system, whereby the liquid is pressurized in the inline carbonator suitable finely beaded gas/water mixture, Singleterry does not.

A combination of Malmström and Bosko will likewise not lead to the now claimed apparatus. Bosko lacks a post-impregnator. The Bosko carbonator works differently from the claimed invention. Because there is on one carbonator, the carbonator in Bosko is of a much modified variety. The Bosko device lacks a continuous gas liquid stream which flows under a beginning pressure and downstream is being tapped while the pressure in the system is maintained. The Bosko device does not have an even pressure throughout the system, in particular because it is possible to tap uncarbonated water from the Bosko apparatus. Bosko teaches a method for saturating a liquid with CO₂ by molecular gas transfer. This has nothing to do with post-mixing gassed liquid. The person skilled in the art would not look to Bosko's teaching for a cheaper design of employing a post-impregnator.

The Spiegel reference the Examiner cites does not teach that a finely-bubbled liquid/gas mixture is produced which contains an increased amount of bubbles. As such, the apparatus produces a mixture which greatly foams when tapped and loses its carbonation very quickly. Tapping has to be conducted slowly so no overflow due to foaming occurs. To alleviate this problem, still water had to be added at high volume

tapping times, which erodes the quality of the carbonated drinks. The currently claimed device allows large tapping capacity without unwanted foaming.

Based on the foregoing, applicant contends that the combination of Malmström with either Singleterry or Bosko does not rationally lead a person skilled in the art to the claimed invention. While Spiegel may teach the granulate, such granulate would have no place in a system the Examiner proposes as a combination Malmström Singleterry or Malmström Bosko.

Withdrawal of the rejection of claim 57 under 35 U.S.C. §103(a) is thus respectfully requested.

CONCLUSION

Applicant believes that when the Examiner reconsiders the claims in the light of the above comments, he will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

None of the references discloses a device for mixing a gas/mixture in the presence of carbonators with maintained pressure level.

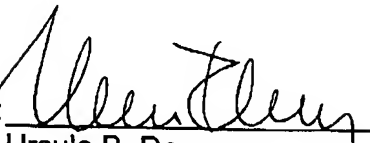
In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

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